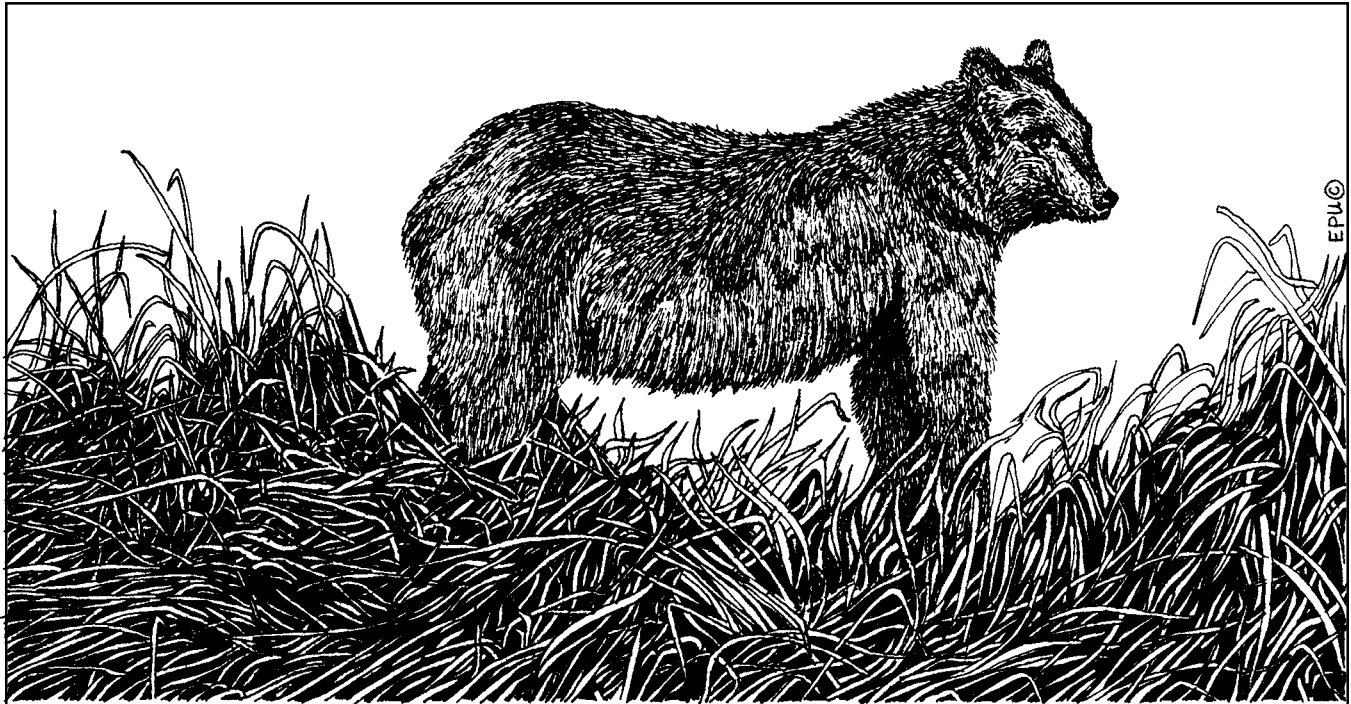


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# Growing WILD

Utah's Project WILD Newsletter

Winter 1992



## *Utah's Bears are Perfectly WILD!*

The image of a bear, seen clearly in your mind or glimpsed standing in the shadows of a Utah forest, captures your attention. Bringing that image into the classroom enables teachers to motivate students to learn -- and Project WILD teachers have been bringing bears into the classroom for several years now!

Last summer the Montana Fish, Wildlife and Parks Department provided Project WILD Coordinators with an opportunity to get an in-depth look at bears -- especially the grizzlies found along the Rocky Mountain eastern front. For three days we studied bears and their habitat and met the people who live near these bears year-round. As always, the bears motivated us to learn more (and to get up at 3:00 a.m. to walk the mountains in search of them!) -- and to bring back as much new information as we could to share with you.

That is what's inside this issue of *Growing WILD* -- new information, resources and activities about bears for you to use in your classrooms. We have also enclosed a new issue of *Nature's Call*, focusing on Utah's bears and designed for grades 1-4. We encourage you to photocopy it as needed. **If you wish to obtain a classroom set, please call the Project WILD Office (801-538-4719).**

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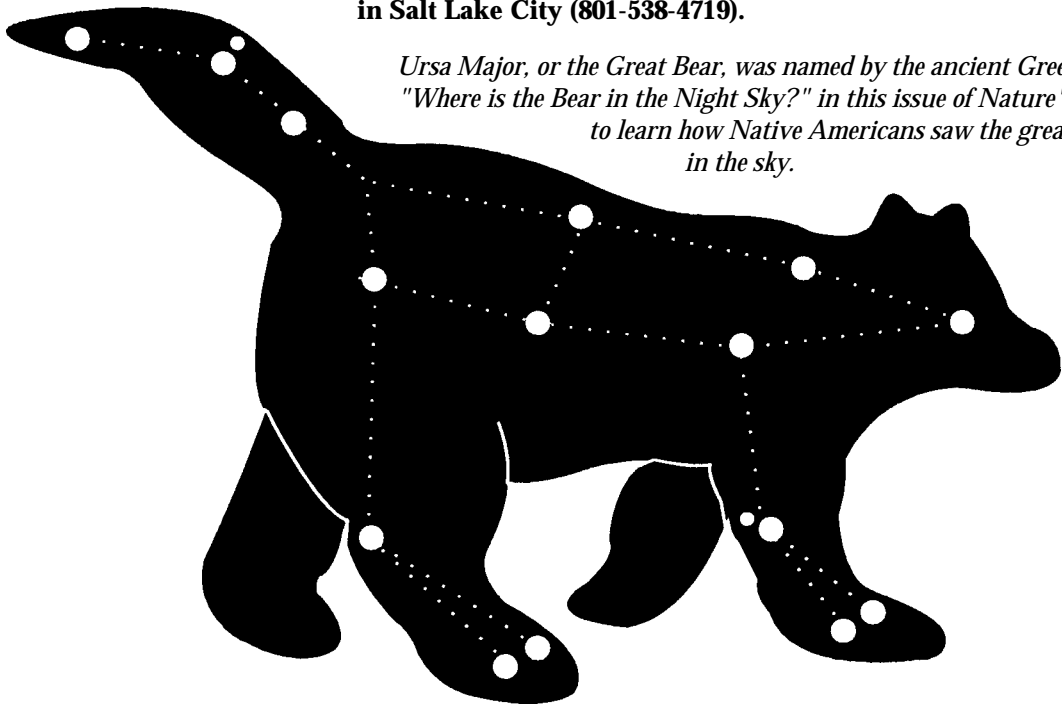
# Get Your Bearings!

--a resource file on bears

We have updated our "Bear Resource File" for your classroom use. It now includes (\* indicates new materials):

- \*1. "American Black Bear," *Wildlife Photo Series*, Utah Division of Wildlife Resources.
- \*2. "Animal Anti-Freeze," OBIS activity on hibernation.
- \*3. "Bears: Imagination and Reality," an educational resource for teachers, prepared by The Science Museum of Minnesota, School Services Division, 1990.
- \*4. Owner of the Earth: Grizzly Bear, educational activities, National Wildlife Federation, 1990.
- \*5. "The Black Bear in Utah," *Wildlife Notebook Series*, Utah Division of Wildlife Resources.
- \*6. "The Status and Conservation of the Bears of the World," by Christopher Servheen for the Eighth International Conference on Bear Research and Management, Victoria, British Columbia, Canada, 1989.
- 7. slide set with script, entitled WHAT BEARS GOES WHERE?, with a section written about black bears, one about grizzly bears and one about polar bears. Each section may be used separately, or all three sections may be shown as one program.
- 8. videotape, entitled "The All American Black Bear" (60 minutes), NOVA production.
- 9. collection of newspaper features, Zoo Books, distribution maps and bear silhouettes.
- 10. instructions for building a bear den in your classroom.
- \*11. supplementary activity sheets for BEARLY BORN and HOW MANY BEARS CAN LIVE IN THIS FOREST?.

**These materials are available for check-out through the Project WILD Office in Salt Lake City (801-538-4719).**



*Ursa Major, or the Great Bear, was named by the ancient Greeks. See "Where is the Bear in the Night Sky?" in this issue of Nature's Call to learn how Native Americans saw the great bear in the sky.*

*Growing WILD, Utah's Project WILD Newsletter is written and edited by Brenda Schussman and Daphne Sewing, Coordinators, Project WILD; front and back page illustrations are by Ellen Petrick-Underwood.*

# *Bears: Imagination and Reality*

*(produced by The Science Museum of Minnesota)*



This major exhibit will be at the Idaho State Historical Museum in Boise from June 4 through September 7, 1992. It offers a thorough study of the natural history of grizzly and black bears and presents the bear as seen in myth, legend and cultural tradition. It also presents conservation issues and the conflicts between bears and humans. As with the wolf exhibit which was on display a few years ago, the exhibit producers have combined written, visual, interactive and directed activities to convey their message.

While the exhibit was on display in Yellowstone National Park this past summer, naturalists led a fascinating activity tracking a "radio-collared bear" to its den site within the exhibit. Removing a wood panel allowed access to the "bear" and was followed by a simulated session where "scientists" recorded data from the "tranquilized bear." The activity accurately demonstrated the research projects conducted by the biologists who are studying bear populations here in Utah.

A teacher's packet of educational resource materials and activities is available at the exhibit for \$10.95, or you may purchase a copy from Thomas J. Wickland, Coordinator of Educational Resources, School Services Division, Science Museum of Minnesota, 30 East 10th Street, St. Paul, Minnesota 55101 (800-221-9444). These materials are designed for use with grades 4 through 6, but the activities are easily adapted for other grade levels. Our resource file on bears has one copy of the packet, and the materials may be reproduced by the classroom teacher for classroom use.

# Hibernation or Winter Sleep?

## -- It's No Dilemma for the Bears!

Bears know exactly what to do each year when fall begins to turn to winter. They simply enter their dens and stay there until spring! In Utah, the dens of black bears often are located in caves, under roots of large trees or under outcroppings of rocks on mountain slopes. These bears usually enter their dens in November and remain there until April or May.

What do we call this winter denning behavior of bears? Is it really hibernation? Is it technically something other than hibernation? Or is it perhaps the ultimate form of hibernation? Even scientists can't agree on what to call it! The chart below is from *Bears of Alaska in Life & Legend* by Jeff Rennie. This author supports the idea that bears do not officially hibernate but enter a state more like a deep sleep, called "torpor." He believes that this deep sleep is more useful for the bear because it allows a bear to protect itself or its cubs from predators invading the den. A hibernating animal, which is very difficult to arouse, is much more defenseless.

You might want to ask your students to compare the winter behavior of the bear and the badger as it's described in the chart. After they study the similarities and differences, ask your students to decide for themselves what this incredible adaptation for winter survival should be called.

Denning	Hibernation
Example: Black Bear, Grizzly	Example: Ground Squirrel, Badger
Temperature Decrease: 4-5°C	Temperature Decrease: 30-35°C
Heart Rate: 12 beats/minute	Heart Rate: 2-3 beats/minute
Metabolism: down 50%	Metabolism: down 75%
Cycle Length: No cycle	Cycle Length: 14 days
Waste Elimination: No	Waste Elimination: Yes
Food Intake: No	Food Intake: Yes

} in between  
cycles

For a closer, hands-on look at hibernation and denning behavior, check out the OBIS (Outdoor Biology Instructional Strategies) activity "Animal Anti-Freeze." In this activity, students select a denning site which they think will offer maximum protection against freezing. Using mixtures of liquid gelatin to represent the animals, students test their choices of den sites by placing their "animal" inside their dens for a given length of time. This length of time is determined by outside temperatures and a control mixture which is exposed. If students have chosen adequate denning sites, they should still have liquid gelatin. (Appropriate concentrations of gelatins are given in the activity depending on outside temperatures.) This activity includes good follow-up questions, and if you don't have a set of OBIS activities in your school, contact the Project WILD Office at (801) 538-4719 for "Animal Anti-Freeze."

The activity "Building a Bear Den" is also a fun activity to do with students when studying hibernation and denning behavior. Using old sheets, big cardboard boxes or other such items, students can create dens of their own and crawl inside for a firsthand look and feel of a bear's winter quarters. For a copy of this activity, call the Project WILD office at (801) 538-4719.

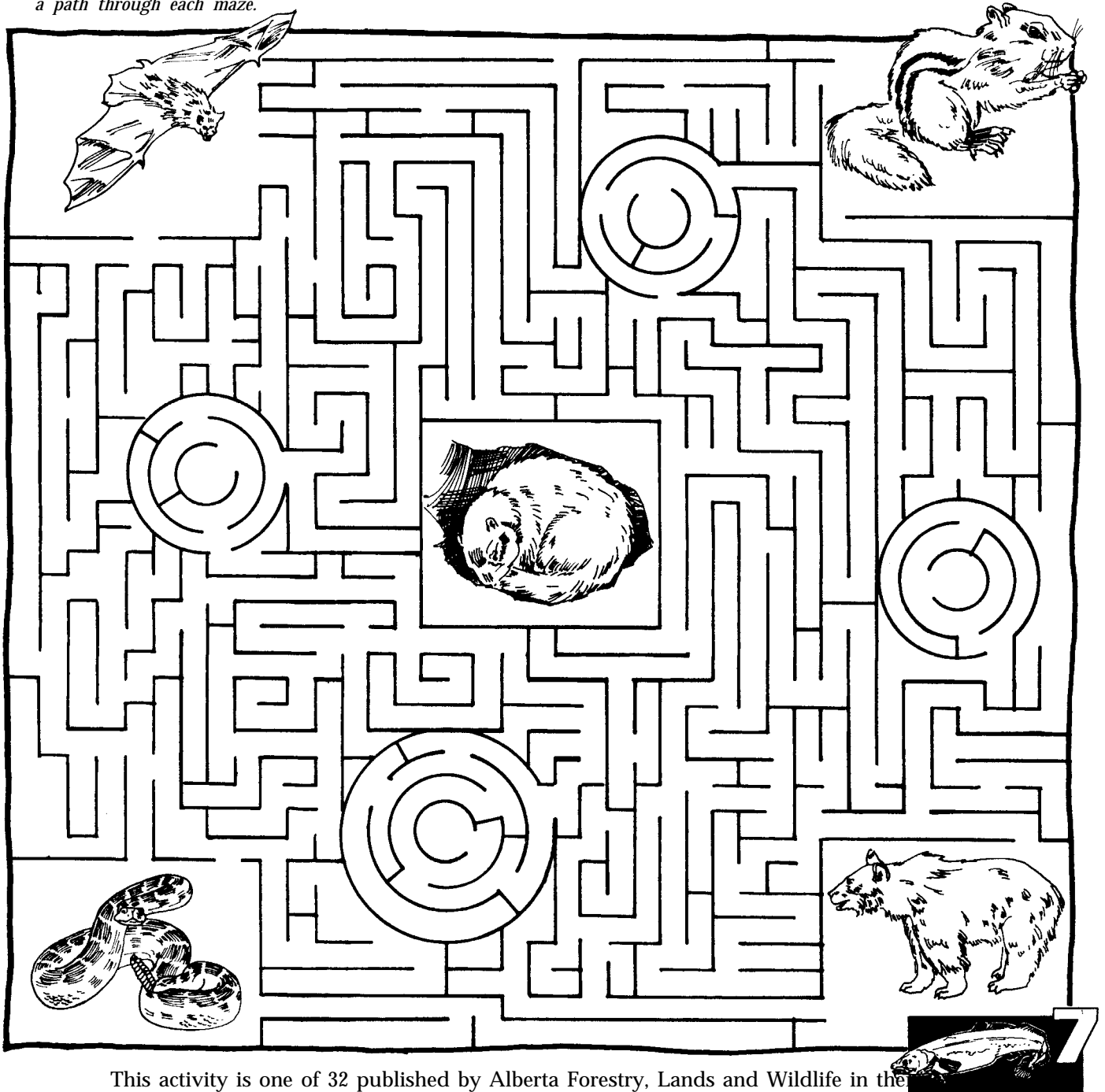
also a fun activity to do with students when studying hibernation



# *This Bears Repeating!*

*--from a workbook about wildlife in Canada*

*Directions: Snakes, turtles, ground squirrels, chipmunks, badgers, bears and bats are some of the animals in Alberta that hibernate. In this maze, the ground squirrel has found a warm den. Help the other animals reach their winter den by tracing a path through each maze.*



This activity is one of 32 published by Alberta Forestry, Lands and Wildlife in the "Wildlife Workbook" (ISBN 0-7732-0528-4). You may request a free copy for your classroom use by writing to Lionel Dunn, Department of Energy and Natural Resources, Fish and Wildlife Division, Main Floor, North Tower, Petroleum Plaza 9945-108 Street, Edmonton, Alberta, Canada T5K 2G6.

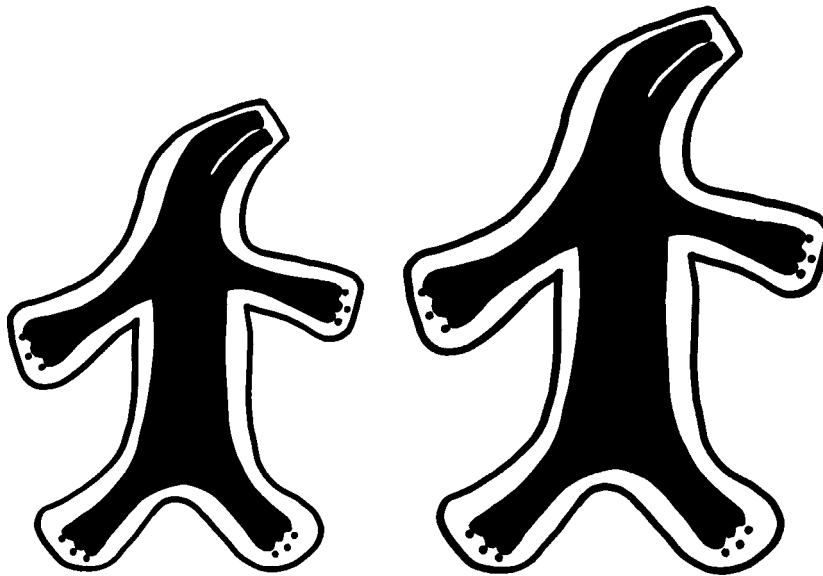
# *Owner of the Earth: Grizzly Bear*

*(educational activities from the National Wildlife Federation)*

This 1990 publication is designed as a supplement to existing science units for grades K-6 and may be integrated into social studies, art, language and math lessons. Its purpose is to provide teachers with activities which will increase students' understanding of the historical and ecological value of grizzly bears, their biology and ecology, and the efforts required to ensure the future survival of the grizzly in the continental United States.

Owner of the Earth: Grizzly Bear (item #79797) is available for \$16.50 (plus \$4.50 for shipping) from National Wildlife Federation, 1400 16th Street, NW, Washington, D.C. 20036-2266 (800-432-6564). One copy has been placed in our Bear Resource File and is available by contacting the Project WILD Office (801-538-4720). The National Wildlife Federation has given permission for teachers to copy the pages specifically designated for student use.

To give you an idea of the activities included in this book, one activity, "How Animals Multiply," compares the reproductive abilities of grizzly bears, deer and mice. Students calculate the number of offspring a female of each species is likely to produce in a lifetime and discuss the factors which increase mortality for the bears. This activity presents extensive data for students to analyze and apply. Student worksheets include math calculations and graphing exercises. This activity is designed for grades 5 and 6. Some of the other activities teach about grizzly bear distribution, behavior, habitat and conflicts with humans. One activity teaches physical characteristics of grizzly, black and polar bears.



*"Bear gallbladders fetch about \$18,000 each in Asia, where they are converted into tablet form and taken as a panacea. Conservation officials are worried that high prices for bear parts will bring an increase in illegal bear killings. Most endangered is the grizzly, of which only 1000 are left in the continental United States."*

*--Time Magazine,  
November 4, 1991*

# *These are Utah's Bear Facts!*

## *How Do You Compare?*

### Black Bear

A black bear becomes an adult at about

**3 1/2 years of age.**

An adult male black bear's average height, standing upright:

**5 1/2 ft.**

An adult female black bear's average height, standing upright:

**4 1/2 ft.**

An adult male black bear's average weight:

**350 lbs.**

An adult female black bear's average weight:

**250-275 lbs.**

The average birth weight of a black bear cub:

**8 ounces**

The average weight of a one-year old cub:

**45 lbs.**

The average weight that a black bear loses during hibernation:

**30% of body weight**

The length of time a black bear stays with its mother:

**16 months**

The average number of cubs a black bear has per litter:

**2 cubs**

Black bear cubs are born in late **January** or **February** in the den.

The number of teeth an adult black bear has:

**42 teeth**

The average length of an adult black bear's hind foot:

**9 inches**

How fast an adult black bear can run:

**30 mph for short distances**

The black bear's average life span in its natural environment:

**6 years**

The black bear's average heart rate:

**40 beats per minute.**

### You

When do you become an adult?

Your height:

Your weight:

Your birth weight:

Your weight at one year:

Your weight loss this winter:

How many **years** will you likely remain at home?

Average number of babies your mother had at one time:

What month were you born?

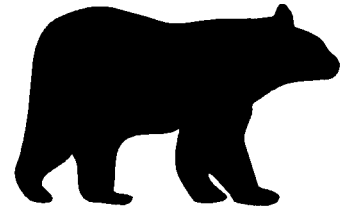
Number of teeth you have:

Length of your foot:

How fast can you run?

Human's average life span:

What is your heart rate per minute?

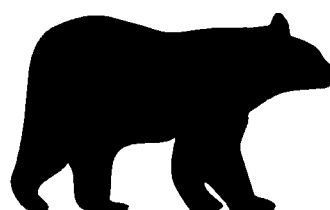
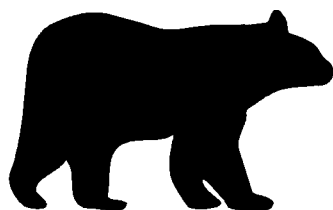


# "Wild Things Are Welcome Here!"

As part of its effort to offer educational opportunities about our natural and cultural heritage, the National Park Service in Yellowstone National Park is sponsoring the 1992 iMAGiNE YELLOWSTONE Art and Writing Exhibit, "Wild Things Are Welcome Here!" This competition is for students in grades 5 through 12, and entries must be received by February 1, 1992.

The exhibit serves as a forum in which young students can express their personal thoughts, feelings and perceptions in creative form. In general, the selection criteria include relevance, composition, originality and experimentation. This is the first year that scholarships, in addition to prizes and purchase awards, will be given to outstanding students. Certificates of participation, brochures and participant listings will be given to all entrants.

For more information, contact David Cowan, Division of Interpretation, P.O. Box 168, Yellowstone National Park, WY 82190 (307-344-7381). If you want entry forms, contact the Project WILD Office (801-538-4719).



## Wilderness is the Theme

The Seventh Annual Wilderness Poetry Competition has been announced by the Utah Wilderness Association (UWA). Poems must be postmarked by February 1 and mailed to POETRY, UWA, 455 East 400 South, #306, Salt Lake City, Utah 84111. Themes include wilderness, its life, its spirit.

Poems must not exceed 40 lines, may be in any style and must be accompanied by an entry fee of \$3.00. Send two copies of each poem: one with name, address and phone number; the second with poem only. Poems will not be returned.

A prize of \$100 will be awarded to the winning poet. The winning poem and the top five honorable mentions will be reprinted in a special section of UWA's spring issue of "Review."

If you're interested in having your students write poetry about wilderness either for this contest or for Project WILD activities like ANIMAL POETRY, the UWA has provided an excellent list of suggestions for good writing from C.L. Rawlins, poetry editor for *High Country News*. Contact the Project WILD Office (801-538-4719) for a copy of "Writing a Wilderness Poem" or for more information about UWA's poetry contest.

### *The Last Season*

*--a collection of writings about winter  
from The Nature Company*

*It snowed. It snowed all yesterday and never emptied the sky, although the clouds looked so low and heavy they might drop all at once with a thud. The light is diffuse and hueless, like the light on paper inside a pewter bowl. The snow looks lighter and the sky dark, but in fact the sky is lighter than the snow. Obviously the thing illuminated cannot be lighter than its illuminator. The classical demonstration of this point involves simply laying a mirror flat on the snow so that it reflects in its surface the sky, and comparing by sight this value to that of snow. This is all very well, even conclusive, but the illusion persists. The dark is overhead and the light at my feet; I'm walking upside-down in the sky.*

*--Annie Dillard, Pilgrim at Tinker Creek*



## *More Resources. . .*

### **"DISCOVER UTAH WILDLIFE" POSTER**

**A black bear cub is highlighted in the most recent poster in the "Discover Utah Wildlife" series. Produced by the Division of Wildlife Resources, this great-looking poster is available free of charge by writing or calling the Project WILD Office, 1596 West North Temple, Salt Lake City, UT 84116 (801-538-4719).**

### **Grizzly Bears and Whales**

Developed by Audubon, these programs come in both teacher and student editions. Available in IBM and Apple II formats, they have simulations that provide students with the opportunity to explore the worlds of these two large mammals. Both emphasize problem solving and illustrate the many pressures pushing the species toward extinction. Prices range from \$49.95 to \$159.95, depending on edition and application. Available from Top Ten Software, 40308 Greenwood Way, Oakhurst, CA 93644; (209) 683-7577.

**"Pathways to Environmental Education,"** a publication of the Western Regional Environmental Education Council, provides sample models for integrating Project WILD and Project Learning Tree activities in instructional units, skill areas, outdoor classrooms and conservation areas for youth groups. Contact the Project WILD Office for a copy (801-538-4719).

**In the activity CHECKS AND BALANCES,** students investigate limiting factors and make hypothetical management decisions affecting a wildlife population. We have modified the activity and designed the materials specifically for learning about Utah's moose population. Materials include Utah specific management and condition cards for the activity, a geographic description of Utah's ten moose units and information about the current moose population and carrying capacity in each unit. Contact the Project WILD Office for a copy of these materials (801-538-4719).



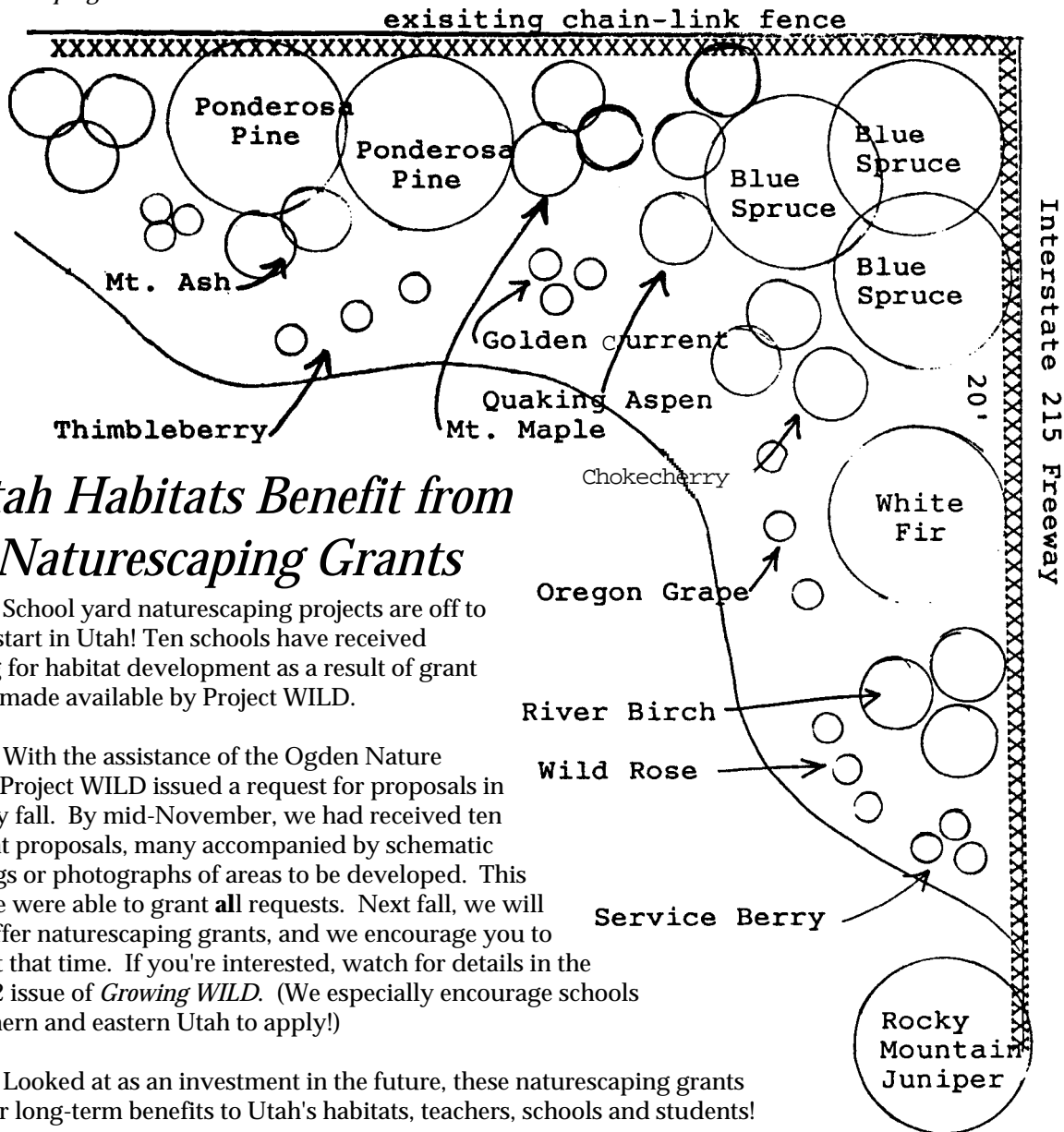
**Fauna of Southeastern Utah and Life Requisites Regarding their Ecosystems** is a complete review of the animals and habitats in the southeastern region of Utah. If you're teaching in this region, you should find a copy in your school library. Additional free copies may be obtained by contacting Brent Stettler, Information & Education Manager, Division of Wildlife Resources, 475 W. Price River Dr., Ste. C, Price, UT 84501 (435-636-0266).

## *Project WILD Honored with President's Award*

Project WILD has recently been honored with the President's Environmental and Conservation Challenge Award for Education and Communication. President Bush, in a Rose Garden ceremony at the White House, October 31, recognized Project WILD as a program that best exemplifies the cooperative, innovative spirit of the new environmental era.

We recognize the tremendous impact that you as Project WILD teachers have on the educational system and the students in today's classrooms. These students will soon be making the decisions which will affect the future -- for people, wildlife and the environment. We thank all of you for helping to make Project WILD work! You all deserve to share this honor!

*Schematic drawing reproduced here is a portion of one submitted by Lew Gardiner in his proposal for a Natureescaping Grant.*



# *Utah Habitats Benefit from Naturescaping Grants*

School yard naturescaping projects are off to a great start in Utah! Ten schools have received funding for habitat development as a result of grant monies made available by Project WILD.

With the assistance of the Ogden Nature Center, Project WILD issued a request for proposals in the early fall. By mid-November, we had received ten excellent proposals, many accompanied by schematic drawings or photographs of areas to be developed. This year, we were able to grant **all** requests. Next fall, we will again offer naturescaping grants, and we encourage you to apply at that time. If you're interested, watch for details in the fall 1992 issue of *Growing WILD*. (We especially encourage schools in southern and eastern Utah to apply!)

Looked at as an investment in the future, these naturescaping grants can offer long-term benefits to Utah's habitats, teachers, schools and students!

**Congratulations to the recipients of the 1991 Naturescaping Grants:**

Shirley Bergeson and Yi Bryner, Wasatch Elementary, Ogden District  
Kerry Bird and Peter Fawner, Westside Elementary, Nebo District  
Patricia Brown, Silver Hills Elementary, Granite District  
Lew Gardiner, Meadowlark Elementary, Salt Lake District  
Kate Grandison, Raymond Lee and Brett Moulding, Roy High, Weber District  
Margaret Pettis, South Cache Middle School, Cache District  
Kayo Robertson, Millville Elementary, Cache District  
Cathy Welch, Country View Elementary, Weber District  
Gayen Wharton, Oakridge Elementary, Granite District  
Carolyn Zaugg and Martha Frankovich, Lowell Elementary, Salt Lake District

## *Mark Your Calendars -- Register Now!*

**We have two exciting Advanced Wildlife Education Workshops planned for the spring of 1992.** These workshops are offered to all Project WILD teachers and promise to be dynamic, challenging, fun and full of ideas and free materials for your classroom. The workshops begin Friday evening at 6:30 and conclude Saturday afternoon at 4:30. There will be no charge for the workshops; credit will be available.

**On March 13-14, we have scheduled "Raptors of Utah" at Hogle Zoo.** This will be an "up close and personal" look at Utah's birds of prey with one of Utah's foremost authorities on raptors and raptor rehabilitation. Jo Stoddard will join us to discuss structural and behavioral adaptations of raptors, habitat requirements and conservation issues. Jo will bring several of her birds for us to see. A late night "owling" opportunity will be optional for those who want the adventure of calling in owls!

**On April 3-4, there will be a workshop on "Sea Turtles and Desert Tortoises" in St. George.** This workshop promises to "take" participants to Mexico via slides and a special guest to learn what it's like to work on the beaches with two of the most endangered sea turtles, the Kemp's ridleys and the black sea turtles. Carlos Delgado, biologist from the University of Michoacan, will join us to share his experiences and expertise. Then, participants will have the opportunity to be "up close and personal" in the field with the desert tortoise, learning about the characteristics it shares with the sea turtles, its unique adaptations, habitat requirements and the significance of its listing as endangered by the U.S. Fish & Wildlife Service.

**If you're interested in attending one or both workshops, please return the registration form below as soon as possible.** Registration is limited to 40 participants in each workshop. Once registered, you will receive detailed information in February.

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Name \_\_\_\_\_ Phone \_\_\_\_\_

Address \_\_\_\_\_

\_\_\_\_\_

I'd like to register for \_\_\_\_\_ Raptors of Utah, March 13-14

\_\_\_\_\_ Sea Turtles and Desert Tortoises, April 3-4

I'm interested in receiving \_\_\_\_\_ graduate credit \_\_\_\_\_ state recertification credit